Subtropical Australian Tree Fern, *Sphaeropteris cooperi* (Hook. ex F. Muell.) R. M. Tryon, Found Modestly Established in Oregon.—The exotic Australian Tree Fern, *Sphaeropteris cooperi* (Hook. ex F. Muell.) R. M. Tryon, synonym *Cyathea cooperi* (Hook. ex F. Muell.) Domin, has been discovered in an easily accessed canyon on the southern Oregon coast, approximately 11 miles north of Brookings, Oregon (Fig. 1).

Last fall, after descending a steep trail to explore sea caves and arches at "Secret Beach" below Samuel H. Boardman State Scenic Corridor, an Oregon State Park, I came across a very large fern in the woods along the lower portion of Miner Creek. The location is T39S R14W sw¼ of Sec. 16 – roughly midway between "Arch Rock" and "Natural Bridges". The plant was photographed, and scales from a portion of the large diameter lower petiole were collected. With a hand lens, tiny brown angled teeth can be seen along the scales' margins – a vegetative characteristic pinpointing this genus and suggesting the most likely species. At Oregon State University upon Dr. Kenton Chambers' recommendation, material was sent to Dr. Alan R. Smith at the University of California, Berkeley, herbarium. Dr. Smith provided information on how to make a cursory identification in the field, and he then made a positive identification of the species from the pressed and dried specimens that were sent to him.

On a return trip to the area, a total of three plants were located along the bottom of Miner Creek canyon within approximately 125 yards or less from the beach, and another sample was collected and sent for deposit in the OSU herbarium (OSC) at Dr. Chambers' request. State Park officials have been notified, and it will be their decision whether to further monitor, or perhaps eradicate, this unexpected subtropical escapee.

It is assumed that the bottom of this small coastal canyon provides thermal protection from freezing, while being isolated enough to protect the exotic ferns from direct contact with the marine salt air and spray. In Queensland, Australia, the native habitat of this species is reported to be in gullies in rain forest (Medeiros *et al.*, Amer. Fern J. 82:27–33. 1992). Of the three tree fern plants located, two were along the canyon bottom and one was on a vertical cliff immediately below a small waterfall. All plants located were within 100 feet of each other, and all were observed from the trail or just barely off the trail.

Sphaeropteris cooperi is native to NE Australia but is widely planted and used horticulturally in the USA. It has been cultivated in warm, humid parts of the country, but unfortunately has become too well naturalized in Hawaii, where it is still aggressively spreading (Medeiros *et al.*, 1992). According to Dr. Smith, this may be the first time *Sphaeropteris cooperi* has ever been found naturalized anywhere in the continental United States – including Florida, California, and elsewhere. Dr. Smith writes: "It is not treated in Flora of North America North of Mexico (FNANM), Vol. 2, 1993. As far as I know, there are no members of the tree fern family, Cyatheaceae, naturalized in the continental USA."

FIG. 1. *Sphaeropteris cooperi*. Photocredit – "Oregon Wild".

Fronds of the Oregon plant showed no fertile sori. Dr. Smith writes: "Often, and depending on light and other factors, this species does not become fertile until the trunks are substantial, several meters or more in length. Trunks are reported to 12 meters tall, 15 cm diameter, in the flora of Australia, where it is native." The tallest plant of the Oregon three is probably no more than about two meters high.

While it is unknown how these plants may have first been introduced to this location, ferns can establish miles away from any fertile parent plant with their small, easily dispersible wind-borne spores. It is very possible that a cultivated garden plant somewhere in coastal southern Oregon could be the source. However, cultivators of this tree fern species caution that special measures have to be taken to protect plants from freezing, which is considered lethal for *Sphaeropteris cooperi*. Since the fern was discovered in nature in 2007, I have now located it 12 miles to the south where two larger fertile plants are growing closely beside a commercial building in Brookings, Oregon. The residents say they planted it at this location five years ago. Also, in Brookings I located a commercial nursery that sells this tree fern in one gallon cans.

Where to see it in Oregon.—Along Samuel H. Boardman State Scenic Corridor, an Oregon State Park, pull off on the west side of Hwy. 101, immediately north of Miner Creek, which is signed on the highway and located midway between the 345 and 346 mile posts. A steep, downhill, ¼-mile trail

leads to what Oregon State Parks calls "Secret Beach". Here, the sand beach with rock arches and another botanically interesting small side canyon are best explored when the tide is at 1.5 feet or below. The easily observed Australian tree fern is located at the bottom of what a map at the trailhead terms a "Cat Trail." While some attempt was made to look for more tree ferns farther up the canyon, the abundance of salmonberry bushes, increased fall stream flow, and overall rugged topography strongly limited physical as well as observational access.

When descending the trail from Hwy. 101, the first, and smallest, tree fern is across the canyon (south side) at a small, user-trampled overview on your left, shortly before you come to the beach. The fern there is on a vertical cliff face and immediately down stream of a 12 foot, free-falling waterfall, which lies below an erosion-control, concrete lining of the upper portions of Miner Creek. All *Sphaeropteris cooperi* plants seem to be below this concrete lining, a structure not obvious to the casual observer. Binoculars will help to identify this first smaller-sized tree fern across the narrow canyon.

The largest and most accessible fern, from which material for identification was collected, is growing just above the only small foot bridge over Miner Creek, located a short way from the beach. Once you reach the final trail spur down to Secret Beach, continue to the left, starting back uphill (east) but as though you were going to proceed on the Oregon Coast Trail farther south. In another 50 feet, immediately across the foot bridge but observable from either side, is the large tree fern to the left of the trail. From here continue uphill on this same trail for 25 yards to a short spur to the left. Here one can easily view another fairly large tree fern growing just above the bottom of the creek's north bank. This spot could also potentially be accessed by hiking up the stream bottom above the footbridge during times of low stream flow.

To see the tree fern in cultivation in Brookings, OR near the north end of town along Hwy 101, go to Coastal Copiers, 1041 Chetco Ave.

The author thanks Dr. Alan Smith, University of California, Berkeley, and Dr. Kenton Chambers, Oregon State University, for help in the preparation of this report.—WENDELL WOOD, Oregon Wild, PO Box 1783, Crescent City, CA 95531.